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Failure Is an Option **40**

COVER STORY At Toyota Financial, allowing for missteps is key to the C-suite's innovation strategy

BY TIM SCANNELL



"I know everything I do in terms of technology systems is a part of this longer value chain, and it's to meet the needs of that end customer," says **Ron Guerrier**, CIO at Toyota Financial Services. He joined Toyota shortly after graduating from college.



FROM THE
EDITOR IN CHIEF

start

CHATTER

Failure Lessons

Learning from failure is an acquired skill that few companies ever truly master. Sure, the executive team may talk a great game about “failing fast and moving forward,” and the CEO will undoubtedly declare how much he values risk-takers and innovators (and wishes he had more of them), but the C-suites in many companies are rife with people who will still fiercely protect their turf and patrol hierarchical boundaries. When it comes to genuine teamwork and collaborative spirit, the executive mind-set often looks more like *The Hunger Games* than the Super Bowl.

So it's a refreshing change to read Tim Scannell's illuminating cover story (“Failure Is an Option,” Page 40) about the tightly knit group of top executives at Toyota Financial Services (TFS). The lineup includes the CEO and CIO, the VPs of sales, product marketing and finance—and the general counsel. “It is a C-suite dream team,” Scannell writes, noting that many of the members rose up through the ranks at TFS together over the past decade, developing the kind of trust that enables collaboration.

The story opens with a candid admission of failure from recently retired CEO George Borst about his disastrous decision (circa 1997) to upgrade multiple legacy IT systems all at once. “Even though it was my fault,” he says, “people were blaming IT for not having the capability to do it.” That mistake—characteristic of one overconfident exec flying solo on a major business decision—is unlikely to happen at today's TFS.

Our story details the steps (and missteps) TFS took to build a truly collaborative C-suite, and shares specific examples and advice to guide others looking to capture the same magic. CIOs are reminded to think more about long-term strategy (short-term thinkers don't inspire confidence) and to encourage fellow execs to raise their own technology IQ (by not oversimplifying everything for them).

CIO Ron Guerrier keeps IT closely linked with business sectors throughout the company. “I know everything I do in terms of technology systems is a part of this longer value chain, and it's to meet the needs of that end customer,” he says. “I need to show that IT is adding value along the way.”

While Guerrier is one of the driving forces behind the company's Innovation Lab, where both business and IT projects are vetted, he doesn't run the employee innovation competitions. General Counsel Katherine Adkins does. “It's not about her better position or my worse position,” Guerrier says. “If she does this right, and I do my part right, we're all better.”

Maryfran Johnson, Editor in Chief, CIO Magazine & Events
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Innovating With Big Data

The Obama administration launched its **open data initiative** four years ago, and now the government wants developers and researchers to transform federal data into **useful information products**. Simon Szykman, CIO of the Department of Commerce, suggests opening up data to the public in an easily consumable format as a way of fostering **innovation**. For example, he says if more data from the Commerce and Labor departments were available, **real-estate** websites could improve their listings, thus enhancing house hunters' searches. www.cio.com/article/740531

Social Job Searching

The social Web gives recruiters lots of information about job candidates that goes **beyond the résumé**. Dice.com, a job search website, is beta-testing a tool called Open Web, which lets recruiters view a candidate's **social media presence** or search for potential candidates. The tool can scan 50 social media sites and view activity such as **online commenting, blogging and posting on Facebook**. About 1,200 Dice recruiters have signed up for Open Web during the beta period, which started in January. www.cio.com/article/740364

Avoid Outsourcing Pain

Many **failed outsourcing deals** share well-known characteristics, and yet **bad deals happen all the time**. Former CIO Diane Carco, president of IT consultancy Swingtide, says painful outsourcing experiences can be avoided by having, at the outset, an **economic analysis**, a **governance** process and a **transformation plan** spelling out in detail how IT service will become **better and cheaper**. www.cio.com/article/740479

Compiled by Staff Writer Lauren Brousell.
Have a comment about a story in this issue? Go to www.cio.com/issue/20131101 or write to letters@cio.com.



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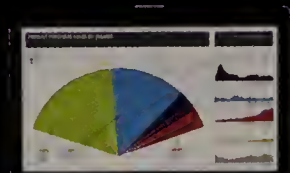
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FROM THE PUBLISHER

Talent Scouts

IT talent: It's a white-hot topic right now, something that every CIO seems to be struggling with. Whether you're looking for specialists in cloud, big data or mobile—or you just need more business-savvy IT pros—the reality is most of you are in the market for more and better talent.

But why is this such an issue? Is the profession not cool or interesting enough for today's youth? Are our schools failing to introduce and prepare our young people for an IT career? This is such an important issue that Gary Beach, one of my mentors and the publisher emeritus of *CIO*, recently wrote a book, *The U.S. Technology Skills Gap: What Every Technology Executive Must Know to Save America's Future*.

"Remember that the education system is what feeds the talent pipeline for corporate IT departments—a pipeline that is drying up," Gary said in a recent column. "Every CIO has a professional obligation to get involved in the campaign to improve our nation's education system." He suggested pushing back against the popular notion that IT professionals are socially inept—we need IT pros who are good communicators—and educating local schools about the benefits of IT careers.

We're trying to help, too: *CIO*, along with one of our top business partners, is about to embark on a major ethnographic research project that we believe could help many CIOs and their HR and training departments better identify, recruit and retain quality talent. I will say, though, that this project is not for the faint of heart: It is a qualitative research study that requires phone- and video-based interviews, as well as an observation period. That said, those who participate will get full access to all the data and be able to share the results with colleagues to make better decisions on who to recruit, hire, retain and promote.

If there is one thing I have learned during my tenure as publisher of this magazine, it is that CIOs are passionate about their careers and the differences that their teams make to their organizations. I've also seen that CIOs want to help each other succeed and advance their careers, as well as give back to their profession. My hope is that this project will give back to the CIO profession and help strengthen it for future CIOs.

If you're the head of IT in a large enterprise organization and are interested in participating in this project, please let me know and I will provide you more information.

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Ace the Executive Interview

Coaches urge you to do your homework, practice in a mock interview, ask sharp questions—and close strong **BY RICH HEIN**

Interviewing for executive positions can feel like running a gauntlet. You're interviewed multiple times, first by a recruiter or HR manager, then by other executive team members, a board committee, and maybe your prospective manager. While there will always be things you can't control, preparation is the key. Here are some tips to help you nail your next interview.

“Understand the company, where it's going, where it's been and who's working there.”

—Dan Schawbel, author of *Promote Yourself: The New Rules For Career Success*

Arm yourself with information. “One of IT recruiters' biggest complaints is candidates showing up to the interview having done no research. They have no clue what the company does, who their competitors are and how they are organized,” says executive career coach Donald Burns. Tap your CIO network to see if you can learn about the performance of the preceding CIO, so you'll know what to emphasize in the interview, says Peter High, author of *World Class IT*.

Be prepared to discuss industry trends. “Understand the company, where it's going, where it's been and who's working there. When you're in the interview and you've done

your homework, you sound smart... and you can focus on how you best fit in,” says Dan Schawbel, author of *Promote Yourself: The New Rules For Career Success*.

Know which of your achievements matter. Ideally, the characteristics that the company seeks in a CIO will be conveyed in the job description. Show how your experiences line up with the specifications listed, says High. Be prepared to offer five to eight success stories from your career that are applicable to the job, says Cheryl Lynch Simpson, career coach and founder of Executive Resume Rescue.

She also urges clients to create a list of three to four key points they

want to make, “then concentrate on slipping these into the interview whenever appropriate.”

Get feedback before the interview. Get a coach or colleague to conduct a mock interview. “What you'll find is that people hesitate and have to think because they don't have an answer ready. That kind of role-playing can make a huge difference in the interview,” says Burns. Better yet, record a video of the mock interview to identify problems with your body language.

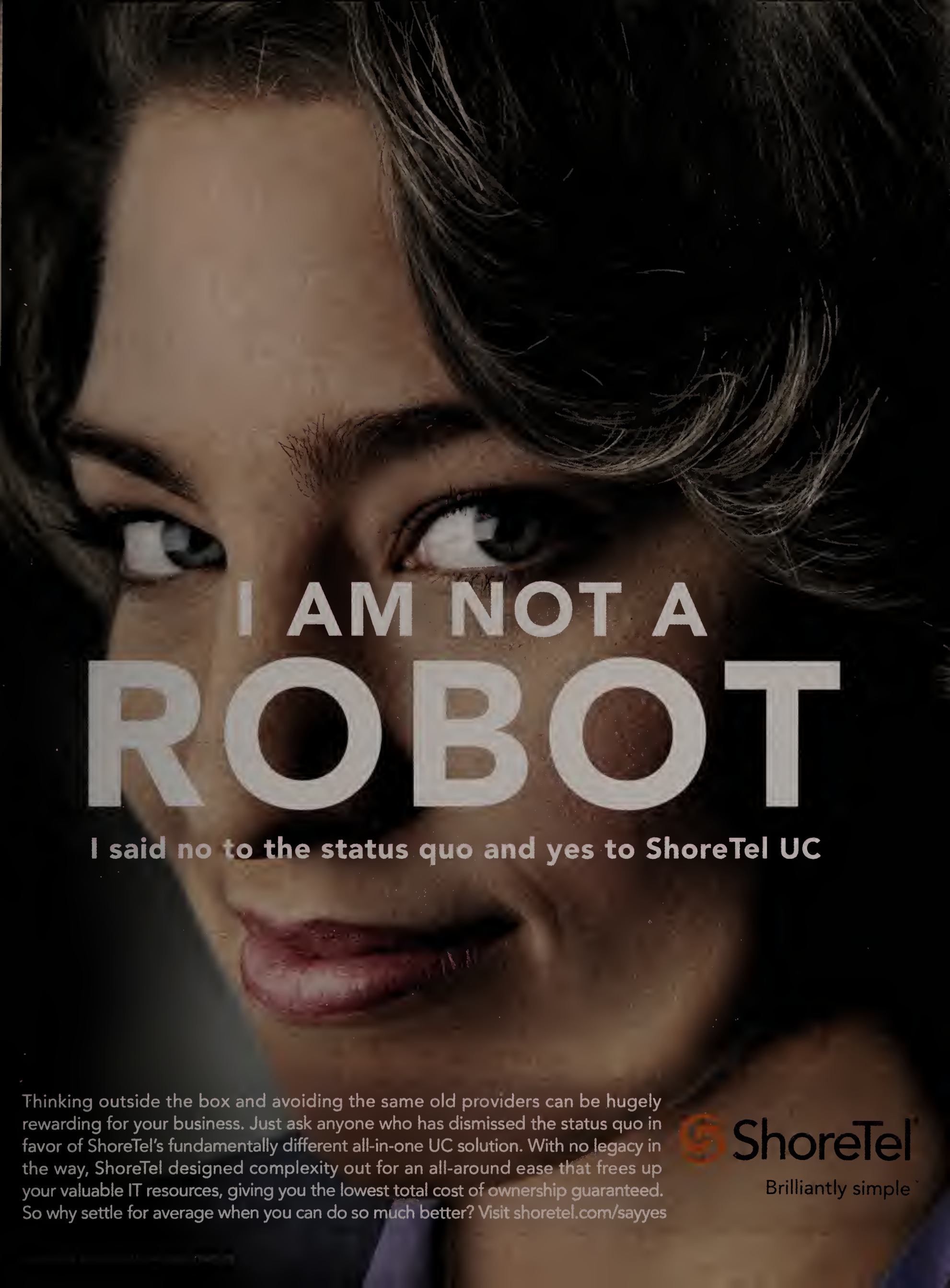
Ask the right questions. “Ask open-ended questions that explore the company mission, corporate values, the executive's leadership strengths and the department's performance targets for the position the candidate is being interviewed for,” says Simpson.

Burns suggests asking, “What is the one key priority that you want me to accomplish coming in here?”

“You're essentially asking, ‘Why are you hiring me?’,” he says.

Close strong. “Offer a brief, two-minute, achievement-rich summary of your candidacy. Restate your interest in the job and ask when you may contact the hiring executive to learn their decision or next steps,” says Simpson. You want to come off as excited about the opportunity without seeming desperate. And send a thank-you note within 48 hours.

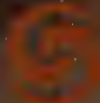
Rich Hein is managing editor for CIO.com. For more tips, check out www.cio.com/article/737920.



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News Scan

Web Citations Disappear from Court Rulings

Supreme Court opinions have come down with a bad case of link rot. According to a new study, 49 percent of the hyperlinks in Supreme Court decisions no longer work.

For most of the Supreme Court's history, its citations have been permanent sources, typically books, allowing lawyers and scholars to find, understand and assess the court's evidence and reasoning. Since 1996, though, justices have cited Internet materials 555 times, according to a study by librarians at the John Marshall Law School. But those citations are very often ephemeral.

—The New York Times

Data Centers Try Fuel Cells

A small but growing number of California data centers are installing fuel cells as a cleaner and more direct way to get electricity, as compared to the power grid. Telecommunications company CenturyLink announced that it bought fuel cells from startup Bloom Energy to help power a data center in Irvine, Calif.

—GigaOm

General Motors to Allow Online Shopping for Cars

General Motors plans to expand a new online shopping tool that lets customers bypass showrooms when buying new cars. The software, which keeps GM's 4,300 dealers at the heart of the sale process, will provide a high-profile test of whether the automaker can cater to online consumers without running afoul of state franchise laws that give dealers exclusive rights to sell most new cars.

By the end of this year, GM plans to extend a Web-based application, called Shop-Click-Drive, to its entire dealer network. The app would let new-car buyers lock in the price of a new car, get an estimate of the trade-in value of their old car, apply for financing and arrange a test drive or delivery of their new vehicle.

—The Wall Street Journal

Microsoft's Ballmer: Office for the iPad Coming—Someday

Microsoft CEO Steve Ballmer said at a Gartner conference that a touch-specific version of Office will, at some point, reach the iPad. It was the first time that a top-level Microsoft executive publicly promised that the lucrative Office franchise would run as a native app on Apple's iPad.

"Word, PowerPoint and Excel are all authoring tools," said Ballmer. "They are optimized for use with keyboards and mice. The last time I checked, the iPad didn't have a paradigm for keyboard or mice. iPad will be picked up when we do what I would call not just a touch-enabled, but a touch-first user interface [for Office]. That is in progress...for both Windows 8 and other platforms."

—Computerworld

Amazon Cleared to Build the CIA's Cloud Platform

Amazon Web Services scored a major victory against IBM in the battle to build the cloud computing infrastructure for the CIA and the rest of the intelligence community.

A federal judge ruled in favor of Amazon, which is trying to become a major cloud services provider to the federal government, after IBM protested the original contract award to Amazon. The four-year contract is worth up to \$600 million, plus bragging rights in the government market. IBM, which claims to have a more cost-effective bid, said it will appeal the ruling.

—Federal Computer Week

Banks Join Messaging Network That Rivals Bloomberg

Goldman Sachs Group, JPMorgan Chase and six other banks agreed to join a new instant messaging network from Markit and Thomson Reuters that will connect disparate messaging systems. The network, called Markit Collaboration Services, lets members chat regardless of the proprietary messaging technology that each firm uses.

This open platform contrasts with Bloomberg's messaging system, which is a closed network only for users of Bloomberg terminals. Bloomberg messaging is the most popular form of chat on Wall Street, and often cited as one of the reasons banks are willing to pay about \$20,000 a year for a Bloomberg terminal subscription.

—Reuters

Meltdowns Hobble NSA's New Data Center

A new Utah data storage center being built for the National Security Agency has been hit by 10 electrical surges, called arc fault failures, in the past 13 months. The surges, characterized as "a flash of lightning inside a 2-foot box," have destroyed machinery and delayed the opening of the facility.

An NSA spokeswoman acknowledged problems but said, "The failures that occurred during testing have been mitigated."

The facility spans more than 1 million square feet, with construction costs pegged at \$1.4 billion—not counting the Cray supercomputers that will reside there.

—The Wall Street Journal

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Job-searching tips for IT leaders who have decades of experience

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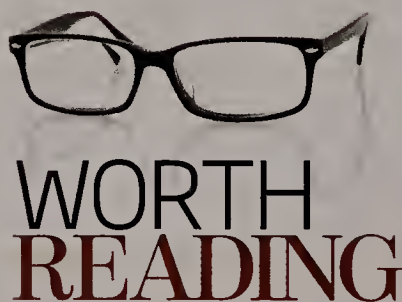
2 Include a "professional affiliations" section in your resume, highlighting active involvement in cutting-edge organizations. Have a social media presence and post articles showcasing your expertise.

3 Consider an image makeover. Don't try to look 25 years old, but give yourself a new hair color and style, an updated wardrobe and modern eyeglasses to keep the interviewer focused on the questions at hand rather than your age.

—Rich Hein



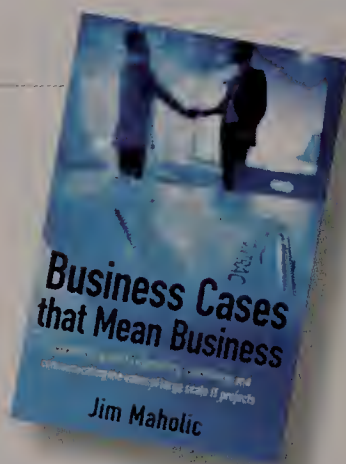
For more tips, see: www.cio.com/article/739053



WORTH
READING

BOOK **Business Cases That Mean Business** By Jim Maholic

Maholic, a former CIO, offers a practical guide to creating and presenting a business case for a big IT project in order to win funding. The goal is to tell a compelling story, with credible evidence, that your proposal will do what every CEO wants to do: "either make more money or spend much less money." *CreateSpace*, \$25



quick
FIX



How can I survive as an introverted CIO in an extroverted world?

ALWAYS appreciate that, as an introvert, you have strengths that can help you balance the on-the-go demands of the CIO role. For example, introverts can concentrate on one thing for long periods. They don't need others around to do their best thinking. They test important ideas before expressing them. They have a calming presence in critical situations. Many extroverts lack these strengths and envy introverts for having them.

SOMETIMES extroverts form negative perceptions of introverts, which can diminish your clout as an executive. For example, extroverts sometimes see introverts as withholding ideas, making minimal contributions to group efforts, and being distant or aloof. But small adjustments can reduce the odds of being misunderstood, such as speaking up more in senior leadership meetings and offering ideas to colleagues without waiting to be asked. Resist the temptation to stay behind closed doors; let your fellow executives and your IT employees see you and know you.

NEVER fall into the trap of thinking "Woe is me, I'm an introvert"; you'll sabotage your power as a leader. Dare to speak up, even if you haven't had a chance to polish your thoughts. When you need more time to reflect before voicing an opinion, say so. Strive to strengthen your ability to negotiate, persuade, collaborate, build relationships, give presentations and think on your feet. These skills will help you excel as a CIO without sacrificing your natural introversion.

Naomi Karten, a lifelong introvert, is the author of numerous books on topics such as managing change, managing expectations, delivering presentations and surviving as an introvert.



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CIO



George LaBelle, CIO of Independent Purchasing Cooperative, says mobile job applications attract a bigger pool of candidates.

15

An App for Applicants

Subway's tablet app for hiring attracts more job candidates and improves HR analytics **BY STEPHANIE OVERBY**

A good sandwich artist is hard to find. With a workforce that's largely young and transient, finding reliable hourly employees is one of the biggest difficulties that Subway restaurant franchisees face. "It's a challenge for the entire quick-service restaurant industry—finding, interviewing and hiring good people," says George LaBelle, CIO of Independent Purchasing Cooperative (IPC), a nonprofit organization owned by Subway franchisees that manages purchasing, supply chain and IT for 29,200 U.S. and Canadian restaurants.

Three years ago, IPC developed MySubwayCareer, a Web portal where people can apply for jobs at up to 15 restaurants at once. IPC partnered with Chequed, a developer of pre-employment screening software, to incorporate an assessment tool. Applicants answer 80 to 100 questions like, "Your manager tells you to mop the floor and a customer complains that his sandwich is cold. What do you do first?" and the software rates candidates on a scale of one to five. Franchisees, mean-

▶▶▶

.....**55%** CIOs who report that skills in network administration and database management are in high demand in their IT departments. Robert Half Technology

►►► **Mobile app** Continued from Page 15

while, use the portal to process applications and print suggested interview questions.

But missing the mobile piece diminished the pool of applicants Subway attracted, so IPC launched a tablet version of MySubway-Career this year. But 100-question assessments aren't exactly tablet-friendly: Going mobile meant rethinking what was already a decent system, says Labelle.

Know Your Audience

IPC considered the different needs of job applicants and franchisees, who own an average of five restaurants each. The team used agile development processes and got frequent feedback from a core franchisee group. They also conducted a focus group with local high school students.

"A 40-year-old franchisee from Pakistan interacts with technology very differently than a 17-year-old high school student from Ann Arbor," says Labelle. A franchisee working 80 hours a week wants data as fast as possible, so IPC simplified the navigation. "For a teenager, it's much more about the experience," he says. "Does this look cool?"

Within a month of releasing the tablet version, Subway saw a 30 percent increase in applications. Today, 16 percent of Subway's total 32,000 job applications each week are mobile.

With lots of fresh data from the busy mobile system, IPC tested the effectiveness of the assessment tool and found its predictions were between 80 percent and 90 percent accurate. Next, Labelle wants to integrate the Web portal and tablet application with Subway's homegrown point-of-sale system, which serves as employees' time clock and feeds the payroll system.

The company could take its analysis further, says Eric Siegel, author of *Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie or Die*. By adding job performance and longevity measures to the original Web or tablet data, he says, Subway could learn which attributes matter most in a job applicant. Adding data from the tablet system enriches Subway's analysis, Siegel says. "If you have more fishing poles, you will catch more fish."

Stephanie Overby is a freelance writer based in Massachusetts.

crunch

Boards **Wake Up** to IT Revolution

More directors are spending more of their board hours discussing IT risks and opportunities than they did last year

Many boards are doing the following:

Looking for future directors with technology or digital media experience

Tapping IT consultants for advice more often

Communicating more frequently with their CIO

SOURCE: PRICEWATERHOUSECOOPERS ANNUAL CORPORATE DIRECTORS SURVEY, 2013

Coffee Shops Scan the Web For Hot Spots

Dunkin' Brands, the coffee-and-doughnuts chain with locations in 60 countries, is using a predictive analytics tool to help keep employees safe during international conflicts.

John Sullivan, Dunkin's director of corporate security, uses software called Recorded Future to look for global danger signs. The software scans Web sources to anticipate emerging threats to corporate security.

Sullivan learned of a planned protest in Bogota, Columbia, thanks to the software, before employees were scheduled to travel there. "We would've sent a dozen employees into the heart of the protest," he says. "You just don't know if it could spin out of control." Sullivan had employees reschedule the trip.

The current Middle East conflict prompted Sullivan to develop better emergency escape routes for employees there. Workers in Beirut can no longer travel through Syria due to the danger of roadside bombs; they now have instructions to go through Cyprus.

Sullivan says: "We have to be ahead of what's about to happen so we can keep employees safe and out of those areas."

—Lauren Brousell

..... **30%** Companies worldwide that report having a chief digital officer on their executive team to boost their digital initiatives. McKinsey & Company



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On Becoming a Business Hero

Here's how to find the exit door from the techie trap **BY MICHAEL HUGOS**

They scheduled you for just 30 minutes right after lunch on the second day of the annual senior management retreat. They did it because, even though you are a senior exec, they still think of you as “the techie.”

Your business colleagues on the management team don't have time for techie talk, and they don't want to hear why they can't get the systems they want right away. So they put you into that oh-so-forgettable slot right after lunch when everybody is half asleep.

If you're an IT director or CIO, you may have been in this same position. I've been there. I feel your pain. Welcome to the classic predicament of the rising IT exec. It's the “techie trap,” the IT version of the glass ceiling. They won't take you seriously or let you go any higher because you're the techie. So how do you break out?

A Wake-Up Call

You start by waking them up with a surprise presentation after lunch. You say you've decided to change the way you finance and deliver new apps and systems. You say you have a plan for reducing the risk of big-dollar, upfront investments in new systems (a.k.a. capital expense or “capex”); instead you are going to switch to a pay-as-you-go (operating expense or “opex”) model to pay for new apps and systems.

You expand on this by saying you are also going to roll out new, high-priority applications and system upgrades on a continuous 30-, 60- or 90-day delivery cycle that aligns with quarterly company objectives. You tell them they can change their system development priorities every 30 days as business needs change and unexpected things happen.

By the time you finish saying this, you will have the rapt attention of everyone in the room.

You have not said anything techie; you have not dropped

a single TLA (three-letter acronym). As your words sink in, people look up from their smartphones or laptops, and those staring out the window shift their gaze to you. Several people (like the CEO and maybe the CFO and the COO) even lean forward in their chairs and start nodding their heads as they listen.

You have surprised and delighted them. Ideas flow and IT is the topic of conversation for the next two hours instead of the scheduled 30 minutes. You have just opened the exit door from the techie trap.

The strategy for business success these days can be summed up as: Try many things, follow success, abandon failure. Since business operations and IT have

completely merged, the advantage goes to those companies whose IT groups can try many things (because nobody knows what will work) and quickly scale up what does work. And further advantage goes to those who can walk away from the many things that don't work—without leaving behind a lot of sunk cost (capex) in hardware and software. IT executives who get things done quickly and avoid squandering big capex dollars are in huge demand.

Use cloud computing (public, private or hybrid) to quickly provision new business units. Build new systems and apps from a mix of in-house and hosted software, leverage social media and mobile consumer devices, and write a bit of custom code when needed. Do all of this with no money up front, no long-term licenses, and a pay-as-you-go model. Break big projects into smaller pieces and roll new pieces into production every 30, 60 or 90 days.

You probably already know this, or at least strongly suspect it. So all I'm doing is telling you that you're right. This is how you get out of the techie trap and become a business hero.

Michael Hugos, a former CIO, is an author, speaker and principal at the Center for Systems Innovation (www.michaelhugos.com).

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success can be
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follow success,
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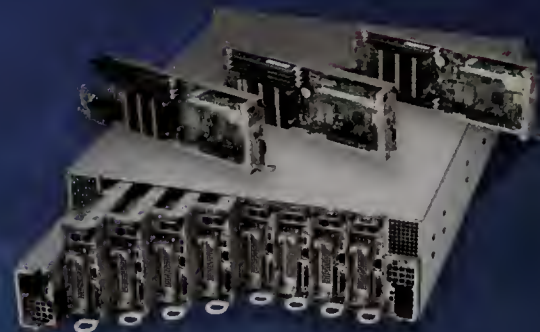
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(Front I/O)

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(Rear I/O)

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Elaine Miller
a managing director with
PricewaterhouseCoopers



C-Suite Mission: Address the Gender Gap

Identify women for the executive talent pipeline, then provide coaching and workplace flexibility **BY MARY K. PRATT**

The statistics for women in corporate America remain dismal. Women hold only 17 percent of senior-level positions, 12 percent of board seats and 5 percent of CEO roles. Companies need to focus on developing a more diverse talent pipeline, says Elaine Miller, a managing director at PricewaterhouseCoopers who focuses on advancing women in executive careers.

Do most organizations lack a framework to drive female talent upward?

Typically they have some sort of talent management program, but where they fall short is in diversity and particularly in promoting women into the leadership pipeline. They haven't put enough attention into how to develop female talent within the organization.

Why?

I think it's a mix of so many reasons. Sheryl Sandberg would say the easy answer is you have to lean in. I think it's a complex issue that comes down to culture and the unwritten rules that exist but need to change.

Does the U.S. need legislative action to address this gender gap?

We are seeing increasing pressure from shareholders, so for public companies there is already pressure for more female representation on boards. I don't know if it needs legislative action, but certainly pressure from the public is starting to mount.

Is that enough to move the dial?

We not only need to have external pressure, but also the internal sponsorship. All C-suite executives need to drive diversity in general and female leadership specifically. And I don't think that happens naturally. This has to come with a plan. It has to be an explicit and conscious effort to make sure that women are on the agenda and in the talent pipeline.

Do female IT leaders bring a different perspective to the organization?

There is research and public data that teams perform better, their ideation is better, their collective IQ is better, and there's diversity of thought when there are women on the team. So you can extrapolate that if the team is led by women, it's also very powerful.

How can a CIO develop female leadership within IT?

Step one could be to design a program to attract, retain and develop women. Road maps, learning plans and development plans are all within the scope and reach of a CIO. These would typically include coaching and mentoring programs, both formal and informal, and it often includes [rotating assignments] for global experience.

The second thing is building a pipeline of high performers and tagging women earlier and making sure that the succession plan dips into the middle ranks.

The third thing CIOs can do is establish the culture and infrastructure that supports the development of women, making it safe for employees and women in particular to ask for flexibility in their schedules or their work locations.

All C-suite executives need to drive diversity in general and female leadership specifically.

Mary K. Pratt is a freelance writer based in Massachusetts.



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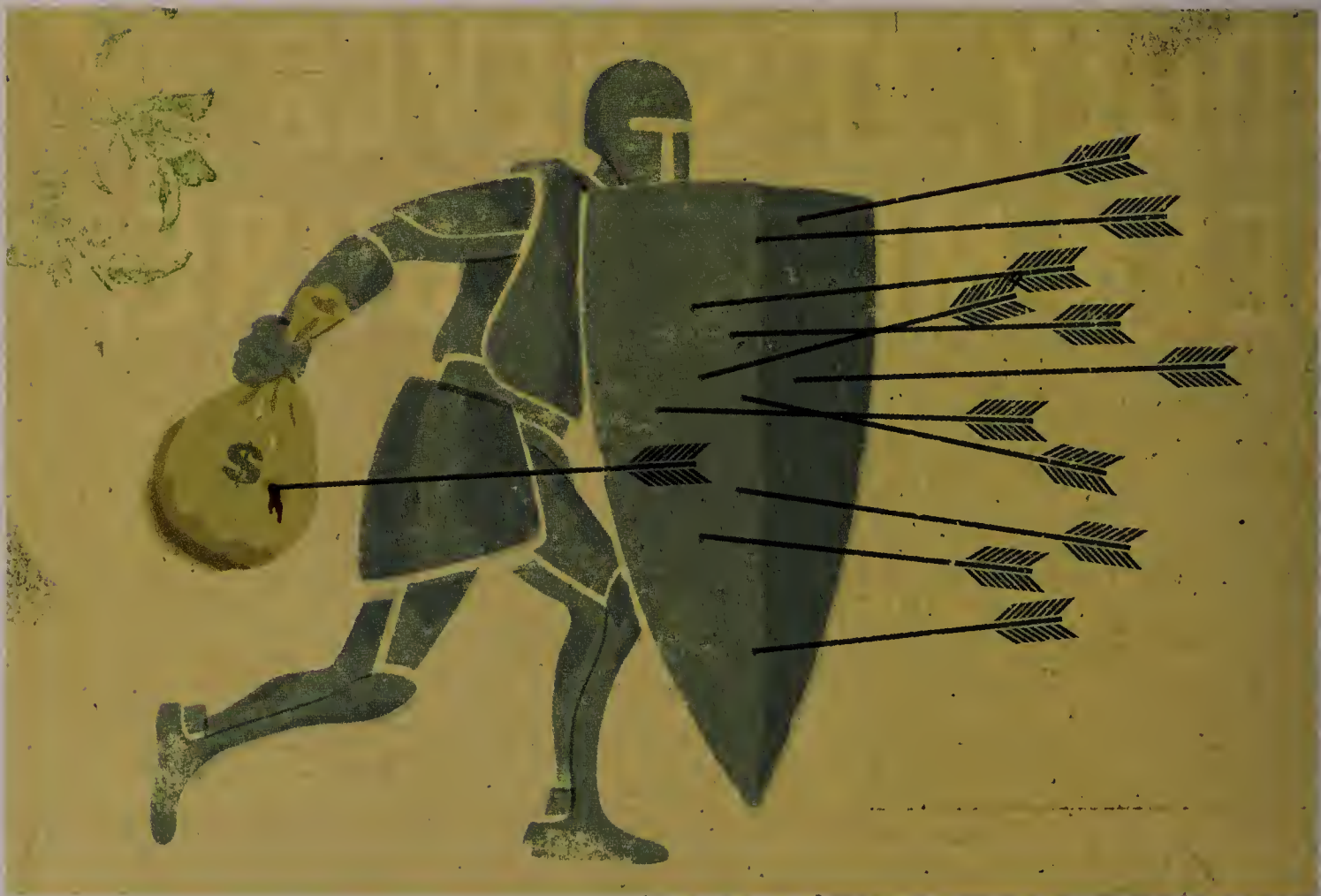
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Security's Elusive ROI

Even as companies invest more in IT security, the cost and frequency of data breaches continue to rise **BY GEORGE V. HULME**

CIOs and IT security teams generally aren't keeping up with technology attacks from around the world, which are growing in number and severity. Figuring out how to manage trouble directed at cloud computing and consumer technologies, in particular, vexes corporate IT groups, according to the eleventh annual Global Information Security Survey, conducted by PricewaterhouseCoopers in partnership with *CIO* and *CSO* magazines.

Overall, organizations are spending more on IT security, with an average budget of \$4.3 million this year compared to \$2.8 million last year. But computer criminals keep coming. The number of attacks the average organization detected in the past year increased 25 percent to 3,741, up from 2,989 last year, according to the survey of more than 9,600 C-level executives, vice presidents and directors worldwide. ▶▶▶



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The average loss per incident climbed, too—by 18 percent. And large-scale losses grew even faster: Incidents costing more than \$10 million are up 51 percent from two years ago.

"The bad guys basically go where they want to go and do what they want to do, and they're not being stopped," says Eric Cowperthwaite, former CISO of Providence Health and Services.

Yet top executives are quite confident in their security efforts, the survey finds, with 84 percent of CEOs and 82 percent of CIOs saying their programs are effective. Even CISOs—usually a cautious bunch—are only slightly less sure, with 78 percent expressing confidence.

Another disturbing statistic: The percentage of respondents who don't know if they've been breached has doubled in the past two years, from 9 percent to 18 percent. Brad Stroeh, vice president of network and security services at First Financial Bank, says there's generally not enough focus on incident response. "And it's surprising because there's not an organization out there that isn't at risk."

Mobile and Cloud Criminals

The survey reveals that many companies, especially those with the most effective security infrastructure, are making sure a senior executive explains the importance of security to the rest of the organization. Yet even with more high-level support, security policies and tools for mobile devices haven't kept pace with criminals targeting phones and tablets in search of high-value data on employees and customers.

Almost half of respondents use cloud computing, but just 18 percent include cloud provisions in their security policies. Steve Phillips, CIO at Avnet, a \$25.5 billion technology distributor, won't tolerate such risk. Rigorous vetting of a cloud provider's security capabilities is crucial, he says.

Avnet conducts a background check of the vendor, evaluating any risky events in its history, and performs a thorough audit of the vendor's security policies and procedures. Avnet also examines the vendor's security efforts at many levels, including network, data, IT infrastructure and physical controls.

Phillips also makes certain that vendors' contracts include specific clauses, such as one requiring the provider to relay information on any breaches and another giving Avnet an escape hatch if a breach is serious enough to warrant terminating the relationship, he says.

"You can't outsource risk or reputation damage should something happen."

George V. Hulme is a freelance writer based in Minnesota.

Things You Need to Know

GOOGLE GLASS

1 IT'S MOST USEFUL FOR MOBILE WORKERS. The hype over Google Glass, a wearable computer with a head-mounted display, has focused on consumer applications, but there are tantalizing possibilities for business applications, too. "[Glass] enables hands-free communication with a camera for busy people on their feet," says Gartner analyst Angela McIntyre. For example, field service technicians could use Glass to diagnose equipment problems by sending a picture to an expert at headquarters or by watching an instructional video.

2 IT WILL IMPROVE GEOFENCING. Retailers will like the idea of another device for sending mobile coupons. But "there are some basic building blocks that need to be in place in terms of Wi-Fi infrastructure and data management," says Brent Blum, manager of digital experiences at Accenture Technology Labs. Glass already offers Crystal Shopper, an app for scanning bar codes to look up prices and reviews, but eventually consumers may receive coupons before their eyes as they walk into a store.

3 THERE ARE PRIVACY CONCERNS. The camera in Google Glass could be used to surreptitiously take photos or record videos. McIntyre says Glass is risky because it's hard to tell when the device is recording. "People can take pictures of screens and use them in illegal ways," she says. Data captured by Google Glass will need to be secured, like any other computing device. "If you're providing a service through Glass, it could be a selling point that you offer better encryption," says IHS analyst Shane Walker.

4 THE PRICE IS HIGH BUT WILL LEVEL OUT. The current price of Google Glass, about \$1,500, is around triple that of a smartphone. When Glass becomes commercially available in 2014, the price will have to come down to the level of a smartphone or tablet before companies will buy it. "You'd have to understand what problem you're trying to solve that can't be solved by cheaper technologies," says Sam Chesterman, CIO of IPG Mediabrands and a member of the Glass Explorer program for beta-testers. Blum says businesses need to figure out how much time and money will be saved by using Glass to determine the ROI.

5 THERE ISN'T AN APP FOR THAT. Glass comes with a few basic apps like search, messaging and video, but doesn't have an app store yet. Still, many developers and businesses are creating their own apps, such as Fidelity Investments' Fidelity Market Monitor app for viewing stock quotes. "Pick a business problem you can solve with [Glass] and see if you have someone on your staff with Android development chops," Chesterman suggests.

—Lauren Brousell

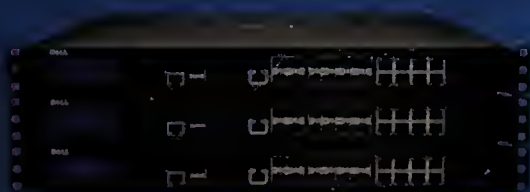
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ANALYST VIEW

Merging Personal and Work Data

As consumers and employees embrace their 'digital selves,' CIOs will face new challenges **BY FRANK GILLETT**

Surveys show that people all over the world are using personal cloud technologies to store their personal and work stuff—files, contacts, photos, music and videos. In the U.S., 77 percent of online adults use one or more of these online services, while in Europe, 61 percent do so. As a result, there is now an online gold rush to help customers and employees build their “digital self”—to help them access, manage and benefit from their digital information using any smartphone, tablet, PC or Web browser.

And the work and personal clouds are merging. Microsoft's new Smart Search feature in Windows 8.1 will index both work and personal data on PCs, file servers and online, and other services will likely provide similar tools. Employers who try to block integration services will not only impair productivity and annoy workers, they'll also find their efforts futile—workers who bring their in own devices and services will find a way around restrictions.

Shell, for one, is implementing a bring-your-own-device policy that will mean supporting about 135,000 devices picked by users, not IT. Why? As Shell's enterprise

information security architect said at a recent conference, “Because young staff...don't want to come into a locked corporate environment.” CIOs and their direct reports need a plan for embracing the new types of information about consumers—and the blending of routine work and personal information by employees.

To get a taste for the next round of offerings beyond Dropbox, try out mobile service apps such as Google Now, Osito, Cue and Tipbit. Playing with apps like these will provide insights about IT's future. For example, they'll help you anticipate how the CMO and her organization will ask for new individualized marketing systems.

What do these new apps mean for IT? Your application development team will need a raft of new APIs; enterprise architects will need to master much larger data architectures; your infrastructure and operations team will need to manage individuals, not devices; and your security team will need to handle security and policy by data object.

Frank Gillett is a vice president and principal analyst at Forrester Research, where he serves CIOs.

Security Pros Struggle to Escape Rut

Dramatic changes are needed on multiple fronts if the security industry hopes to get ahead of cybercriminals, who are continually finding new ways to breach corporate systems, experts warn.

Some say the industry needs to develop new technologies and architectures that send hackers back to the drawing board.

“I think we're in a security rut right now,” Ed Amoroso, CSO for AT&T, said at an industry summit.

While other experts agree hack-

ers are winning, they're hesitant to blame it on a lack of new technology.

Murray Jennex, an associate professor of computer science at San Diego State University, called for more effective sharing of attack data between security professionals working for vendors and corporations. “Security professionals need more knowledge to do their job than attackers do,” Jennex says. Yet the attackers are the ones who are faster at sharing exploits for the latest products, he says.

Security should be built into products from the outset. But buyers are as much to blame as manufacturers for the fact that more products aren't secure by design, says Paul Rivers, manager of system and

network security at the University of California, Berkeley. For mobile devices, security is not a high priority with consumers, so vendors focus on more-desirable features, such as ease of use, music, video and voice recognition.

“Until that changes, I don't think you're going to see some new Silicon Valley startup with the first feature on their feature list being security-related,” Rivers says.

Marc Hoit, CIO at North Carolina State University, says ignorance on the part of technology users also contributes to the number of security breaches. “Most of the infections come from poor user behavior and unpatched systems.”

—Antone Gonsalves



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Finding a Natural Home

CIOs need to find the IT workers who are comfortable focusing on customers, market forces and revenue **BY PHIL SCHNEIDERMEYER**

Richard Thomas, CIO at Quintiles Transnational, joined the company as CTO in 2005 after successful stints at data and analytics companies Nielsen and Telephia. During his time with Quintiles, the company has experienced tremendous market change and recently moved from being a private-equity-backed company to a publicly traded one. With a network of more than 27,000 professionals conducting business in about 100 countries, Quintiles has helped develop or commercialize all of the top 50 best-selling drugs on the market.

How did you flip the IT organization to make it one driven by revenue and market forces?

It's been a journey over eight years, split into three distinct eras.

The first era was one where disparate, decentralized technology groups around the world were combined into one global organization. Early on we established guiding principles, such as focusing on data as a strategic asset, which led to the development of what we call our data factory. The critical element was ensuring we had world-class talent from top to bottom. This started with a new leadership team that ushered in a can-do culture that serves us well today.

The second era modernized platforms and operating infrastructure, leading to a much more scalable, integrated, efficient and reliable foundation for the company.

Our third era has been focused on helping solve the challenges that our clients face in the rapidly changing pharmaceutical and healthcare industry. We envisioned solutions that combined our modernized platforms, advanced analytics and ability to integrate massive data volumes through our data factory. In partnership with our clinical business and marketing group, the Quintiles Infosario platform was launched in 2011 to bring these solutions to our customers. It has been a very hectic few years since launch, but I am delighted with our progress.

How have you changed the organization chart?

The group is organized into four towers that work closely together but have very distinct missions: IT support, core IT, Infosario and R&D.

The first two groups support the Quintiles staff and run our core data centers and infrastructure powering ongoing business operations. The latter two groups focus on our customer offerings and engagements, as well as looking over the horizon to anticipate industry needs that we should be working on today.

With this structure, we have to hire for different mind-sets. For example, some IT people can make the leap and be very comfortable engaging customers, and some cannot. Within the towers, there are natural homes

for everyone. It comes down to finding comfort zones and maximizing domain expertise. By moving pieces around on the organization chart, we have created openings, or white space, and an opportunity to bring in new people with complementary skill sets.

It has taken time to build the structure, find the right people and ensure that our culture flourishes.

Some IT people can be very comfortable engaging customers, and some cannot.

What's an example of this new type of hiring?

The white space introduced challenges to the traditional IT job families. We are no longer just interested in internal IT. As we were building up our solutions centers in Bangalore and North Carolina, we sought out talented staff that can create products.

This is a very challenging, because we're competing for talent with organizations such as Facebook, Microsoft, Google and Oracle. But we've been able to hire individuals who are comfortable leaning into our business, pushing the envelope on the art of the possible and thinking innovatively when designing solutions.

Phil Schneidermeyer is a partner with Heidrick & Struggles, where he specializes in recruiting CIOs and CTOs for all industries.



CONNECTED MACHINES: WHERE WILL THEY TAKE YOU?



From automotive to entertainment, **enterprise is finding value in M2M technology.**

With many IT budgets expected to be flat in 2014, success depends on identifying and investing in the right technologies. Business development managers are looking to IT to improve visibility into operations, reduce costs and stand out from the competition. Those using machine-to-machine (M2M) technology to connect machines as varied as kiosks, vehicles and HVAC systems are dramatically changing how we live and conduct business—in industries as diverse as transportation, education and entertainment. And they're seeing real results.

By connecting machines wirelessly over distance, businesses can collect data and gain insight into operations, identify problems before they occur, manage assets and even transform their business models. While every industry and business has unique needs, the one constant is the need to connect wirelessly over a distance. Whether the machine is telling you where it is, how it's performing, or that inventory is running low, it's critical to have secure, reliable, high-speed connectivity.

Verizon M2M services provide the reliable, high-bandwidth network connection these new connected machine solutions may require.

50 billion devices are projected to be connected in 2020.¹

Industry Recognition

PACE Award: Verizon Telematics, for collaboration with Mercedes-Benz USA to develop and implement remote software-update technology

Telematics Detroit Awards:

- + Best Telematics Service Provider 2012
- + Best Aftermarket Device or Solution 2011, 2013
- + Best Insurance Telematics Product or Service 2013

Business needs are driving rapid adoption of telematics in the automotive and transportation industries.

Automotive and transportation companies are racing to implement M2M technology. Consider all the GPS systems, integrated hands-free phone systems and emergency warning systems in our cars. By 2018, 80% of vehicles sold in the U.S. and 46% sold globally will roll off the lots with telematics features—driving even more embedded and aftermarket opportunities.²

Service companies, the transportation industry and local or federal governments that rely on large fleets are realizing the potential of vehicle telematics. Fleet management solutions like Verizon Networkfleet® are being deployed to help manage vehicle routing, improve driver safety and performance and optimize vehicle use.

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Hoffman Southwest, the nation's largest Roto-Rooter franchisee, needed a solution that would help reduce expenses and streamline fleet operations across six branches. Verizon Networkfleet provided a cost-effective option with a wide range of features. Hoffman Southwest was able to monitor driver behavior, help decrease accidents, enjoy substantial savings and more.

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Verizon Telematics Offerings:

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State Farm uses this self-installed device in its usage-based insurance program, "Drive Safe & Save." It relays data, allowing drivers to receive discounts based on their actual driving behavior. Other In-Drive® services include *safety and security, diagnostics and emissions, family monitoring* and *data analysis*.

NETWORKFLEET

Using accurate, real-time data, Networkfleet helps companies optimize operational efficiency by reducing fuel consumption, maintenance and vehicle tracking expenses. Networkfleet offers *GPS tracking, remote diagnostics, preventative maintenance* and *reporting*.

WHITE-LABEL PRODUCTS

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+ **Redbox:** Using M2M Technology to Fast-Forward a New Business Model

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// 42,000 Redbox kiosks // 58 million rentals per month // 4G LTE from Verizon

+ **Lowe's Iris Smart Home System 7:** Bringing M2M Technology Home

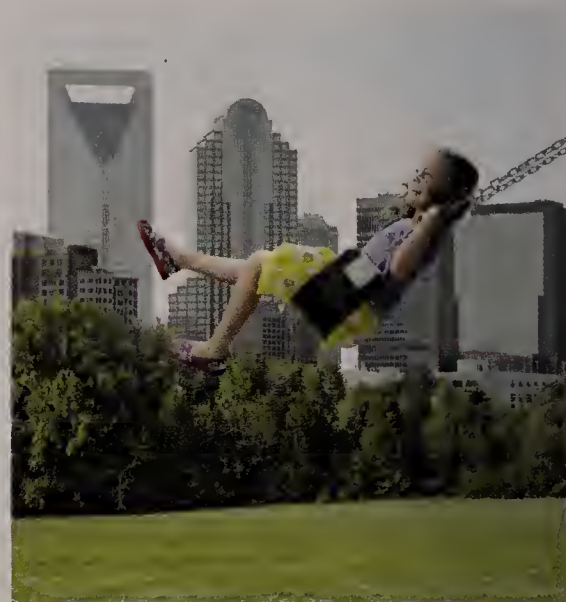
The Iris® Smart Home system is an affordable, easy-to-use product that allows wireless control of lighting, electrical, heating and cooling, security, appliances and more in homes. As the exclusive provider of wireless connectivity for Lowe's®, Verizon employs the nation's most reliable wireless network to deliver peace of mind, comfort and control to homeowners.

+ **Envision Charlotte:** Employing Real-Time Data to Help a City Go Green

Downtown Charlotte is involved in an innovative partnership to create America's most environmentally sustainable urban core. By connecting digital energy technologies over the Verizon 4G LTE network, Duke Energy is helping Charlotte significantly reduce its carbon footprint.

“This is a real-life example of how machine-to-machine (M2M) technology is an effective way to empower people as they become stewards for energy savings.”

— **Mark Bartolomeo**, Vice President of Connected Solutions,
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1 Dave Evans, "The Internet of Things: How the Next Evolution of the Internet Is Changing Everything," Cisco, April 2011.

2 *Embedded Telematics in the Automotive Industry*, IHS iSuppli, November 2011.

3 Networkfleet Case Study, Vertical Market: HVAC.

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Mobile Health Stalls

The healthcare industry struggles to take mobile tech to the next level

BY BRIAN EASTWOOD

Many consumers use mobile apps for health and wellness reasons, such as monitoring diet and exercise and controlling diabetes, while more physicians are using their mobile devices for patient care. But there is widespread agreement that mobile technologies could do much more to transform the delivery of healthcare.

That transformation requires healthcare providers to enter a more mature phase of mobile IT, says a report by IDC Health Insights. "Many of the same demands for healthcare reform—the need to improve access, quality of care, patient safety and clinician efficiency to treat patients cost effectively—are setting in motion the second wave of mobility in healthcare," the report says.

Mature Processes Lacking

The industry has a long way to go to realize that potential, though. "Many healthcare organizations have not yet addressed the range of technology, staffing, and process requirements needed to capitalize on mobile assets and to deploy mobile capabilities pervasively to optimize operational, tactical, and strategic decisions," the report says.

Fewer than 50 percent of healthcare provider organizations are deploying mobile devices in a care setting, and fewer than 40 percent are deploying apps. Those that do use apps are more likely to do so in an ambulatory care setting than for acute care, says Lynne Dunbrack, an analyst at IDC Health Insights. On

top of that, she adds, many of these apps are little more than browser-based or Citrix-enabled clones of legacy client applications; they typically lack touch capabilities and make data entry difficult.

As Dunbrack puts it, the industry is still in a "look up, receive alerts" mode, where the use of mobile healthcare technology is largely limited to consuming data from electronic health records (EHR), imaging and online prescribing sys-

temized requests. For the Cleveland Clinic, this meant developing a Web-based clinical services layer to manage request routing, EHR access management, data validation and security, says Brent Hicks, director of technology and innovation.

Fitting Into the Workflow

It's also imperative to understand how new mobile apps will fit into clinical workflows. To do this, Hicks accompanies nurses on rounds to

To adapt to a mobile-first culture, healthcare IT departments may need a complete overhaul.

tems—as opposed to creating that data on a smartphone or tablet—and asynchronous communication that's not much different from a physician responding to a pager or phone call.

To adapt to a mobile-first culture, as IDC suggests, healthcare IT departments may need a complete overhaul that emphasizes bring-your-own-device policies, enterprise mobile management, security and mobile app development.

At the Cleveland Clinic, the key to mobile health success has been setting priorities about architecture, infrastructure and governance, says William Morris, vice chairman of clinical informatics.

Focusing on architecture makes it easier to reuse code and develop modules, Morris says. This reduces the likelihood that developers will have to build one-off mobile apps that come from fragmented, non-

get to the root of the problem and develop an app that meets nurses' needs. Plus, when nurses help develop the app, they don't need to be trained on it when it goes live.

One hurdle for mobile is that the healthcare industry is already dealing with a logjam of other high-priority, challenging initiatives, such as implementing EHR systems, creating health information exchanges, trying to exploit big data analytics and moving to a new payment model under healthcare reform.

Dunbrack describes the situation as having "a foot in each canoe." But she's optimistic about the future. "There's just so much potential for mobile in healthcare," she says, "especially when you consider how mobile the workforce is."

Brian Eastwood is a senior editor for CIO.com.

VIEWPOINT



Gary Garcia

SENIOR DIRECTOR
TECHNOLOGY SERVICE
OPERATIONS
BLACKHAWK NETWORK

Gary Garcia has over 29 years of experience in the IT industry. He currently serves as the Senior Director of Technology Service Operations at Blackhawk Network. In this role, he is responsible for identifying and improving service reliability for Blackhawk Network customers as part of the Operations Excellence program. Gary is also leading a Site Reliability team that is tasked with managing high-level technical escalations and delivering scalable, serviceable solutions to improve customer experience.

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How Can Companies Derive the Utmost in Business Service Reliability?

If you ask users what they want from technology, they usually respond vaguely: "I just want it to be reliable." As any IT executive knows, that's simple on the surface, but complex in the execution. Reliability, after all, encompasses many elements: performance, usability, accuracy, and even confirmation of transactions.

Gary Garcia, senior director of technology service operations at Blackhawk Network, a leading prepaid payment network offering a broad range of gift cards, prepaid products, and payment services around the world, thinks about these issues every day. Here he talks about why business service reliability is so important to his online business.

What is the biggest challenge when it comes to measuring business service reliability—that is, uptime, data accuracy, reliability, and completeness of interactions? Understanding all of its elements. First, you have to define business service reliability for your organization. It's common to think only

low. What's missing from what IT needs to deliver to the business in terms of either reliability or insight about reliability?

Most companies don't budget enough for reliability, either because they don't qualify the real need, or they don't ask. To overcome that problem, going back to what I said before, you have to define reliability for the business side. The key is to educate your executives on the meaning of reliability with respect to customer satisfaction. The goal should be demonstrating how our web services or functions are extremely reliable. That plus a stellar service offering enables Blackhawk to keep its customers happy.

What's the value of getting an aggregated view of user satisfaction, and what's the best way to get an overall picture?

Having an overall understanding of how your customer views the service you provide is priceless. Periodic surveys can be an effective way to measure your customers' satisfaction. If you can, speaking with them directly via a user group or forum is another valuable

Never be comfortable with "good enough." The desires of the customer base are a constantly moving target.

about availability. If you reach your uptime numbers, everybody's happy. But different people perceive reliability differently, especially when you're talking about customers or partners or employees. With our service, we have partners upstream and downstream whom we rely on to complete transactions. For our customers, reliability is about the entire customer experience—did our site do what they expected, quickly and without errors? Our biggest challenge is making sure all those elements work.

In a recent IDG Research survey, 35% of respondents say the portion of the IT budget devoted to business service reliability is too

way to gain the customers' perspective on your service delivery. In the end, theirs is the only opinion that matters.

Our surveys show that the majority of respondents (61%) feel that IT's response to end-user expectations is just "adequate." How can enterprises improve that result?

Never be comfortable with "good enough." The desires of the customer base are a constantly moving target. Seek ways to improve the process, whether conducting user groups or working with other industry professionals to find out how others approach the problem. This is an art, not a science. ■

Self-Service IT Catches On

Help desk software turns out to be useful beyond the IT department

BY STEPHANIE OVERBY

When Red Hat needed to replace an IT ticketing system that had proven inflexible and costly, CIO Lee Congdon wanted a solution consistent with his goal of making 70 percent of the company's IT cloud-based within two years. That strategy, says Congdon, "probably puts us ahead of all our peers, but behind a lot of startups."

The company rolled out ServiceNow's IT incident-, problem- and change-management applications in January, and the software-as-a-service tools have proven to be flexible, efficient and easy to use. The increased agility is important at the rapidly growing open-source software company, says Congdon.

In the months since Red Hat launched its cloud-based IT service management, the system has already gained several secondary, non-IT customers from within the company.

"We had a great response, so some other internal functions have come to

us saying, 'We need that, too,'" says Congdon. Human resources, payroll, customer support, facilities management and operations are all in line to get on ServiceNow, eager to take advantage of self-service capabilities to free themselves from repetitive tasks that add little value.

At Your Service

It's a natural solution for HR, which can direct employees to the FAQ page and self-service ticketing when they want to make a change to their benefits, for example. The reporting function enables managers to track over time who's asking for what and how often.

Congdon says IT has taken the lead on moving the company to the cloud, but IT insists that business partners own and actively participate in projects—defining workflows and writing self-help documentation, for example.

"The goal is to become a greater

business consultant," Congdon says of IT's evolution in recent years. "We want to be able to go to the business and say we've got a better solution."

That goes a long way toward containing rogue technology purchases in the company. "We don't want to wait for them to come to us or go off and cut a purchase order without our involvement," Congdon says. "Typically that's a bad outcome. They don't know how to negotiate with technology vendors. They don't think about things like security. They're not set up to handle an incident at 2 a.m."

Congdon acknowledges that it's been a challenge to find cloud-savvy IT professionals. "We've had to train folks on the job. But that's a good thing. It gives us more attractive career opportunities and the chance to do leading-edge work."

Stephanie Overby is a freelance writer based in Massachusetts.

Demand for Cloud Skills Still Outpaces Supply of Workers

A study last year by Microsoft and IDC said 1.7 million cloud-related jobs went unfilled in 2012 and predicted more shortages to come. A new study by IT trade group CompTIA finds that there's been a "huge spike" in cloud adoption, possibly making the talent shortfall even worse.

Hiring managers experience the most difficulty in finding employees with higher-level cloud skills such as building migration plans and assessing the risk of a cloud transition, says Carolyn April, CompTIA's director of industry analysis.

"We're seeing cloud technology move beyond the realm of curiosity, beyond early experimentation, and into a second- or third-stage technology evolution," she says.

"Companies are looking for folks with the knowledge of how to integrate cloud solutions with existing, on-site systems," says Seth Robinson, CompTIA's director of technology analysis. "Migration, integration and developer knowledge of different

cloud providers' application programming interfaces are all skills that are in high demand."

Howard Lee, architect of Dice.com's Open Web recruiting tool, says that recruiter searches shows some clear trends. "There's definitely a vendor preference—experience working with Amazon Web Services is sought in nearly half of all searches," Lee says.

IT pros may benefit from getting a professional certification in cloud computing. CompTIA offers a vendor-neutral Cloud Essentials certification program that claims to ensure graduates understand cloud computing from both a business and technical perspective, and have the skills to help an organization move to or govern cloud deployments.

Other cloud certification programs are available from organizations such as Microsoft, IBM, Rackspace, Red Hat, Dell and the Cloud Security Alliance.

—Sharon Florentine

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Big Data Enables Clean Sweeps

Buffalo combines data from the Census and call centers to identify neighborhoods that need help **BY THOR OLAVSRUD**

It's often taken for granted that tough economic times lead to reduced public services. But that hasn't happened in Buffalo, N.Y.

Rather than scale back city services, the city found ways to use big data to deploy services more efficiently and effectively to combat blight.

Operation Clean Sweep, which began as a law-enforcement program, has evolved under Mayor Byron W. Brown's administration into a broader program that brings together numerous city departments—and partners from state, county and federal agencies and nonprofits—to make improvements in city neighborhoods.

On a given day, they descend on a neighborhood to remove litter, debris and graffiti; fill potholes; prune trees; mow overgrown lots; repair street lights; set rat traps; and seal vacant houses. They provide employment and healthcare services, check that housing codes are being met and set up neighborhood watch programs.

Door-to-Door Visits

"We're a Rust Belt city. We get a lot of calls regarding housing, for instance. We take that data and one day out of the week—we don't tell anybody that we're coming—we cordon off the streets for two square blocks and send in teams of professionals door to door," says Oswaldo Mestre, the city's director of citizen services.

"If people don't have smoke detectors, we will give them smoke detectors and install them; carbon monoxide detectors as well. Each agency will talk to residents about what they have to offer. And while

we're doing that, we're gathering quality-of-life intelligence," says Mestre. "People in these neighborhoods are often reluctant to talk to officials. But they don't feel like they're being exposed because while they're talking, we're trimming trees and hedges and there are police officers walking around," he says.

As the city expanded the program, it was no longer enough to choose neighborhoods based on gut feelings.

As the city began expanding the program, it was no longer enough to choose neighborhoods for Clean Sweeps based on gut feelings. After the city deployed its 311 Call and Resolution Center in 2008, it began to analyze 311 and 911 calls, Census data, population density maps and unemployment data to identify its most challenged neighborhoods and prioritize the deployment of resources to those places.

Mestre was recently named a finalist for the 2013 SuperNova Award from Constellation Research. The advisory firm praised the city for its interdepartmental approach to using the insights from big data to identify neighborhoods most in need of resources—an approach that is still rare in the public sector.

The key is consolidating the data into one CRM system so agencies can monitor neighborhood conditions and prioritize services. But that data consolidation wasn't easy, Mestre says. The city's Management Information Systems department had to bring the various city department

heads together to break down the information silos, determine which data sets were useful and how best to express those data sets (for instance, selecting a unified way of identifying properties). That was possible, Mestre says, because Mayor Brown was insistent on breaking down data silos.

"Once we had all the data coming into one place, it made it easier to double, triple, even quadruple our efforts," Mestre says. "Having the leadership, equipment and software to bring this together has allowed us to expand the program and really add a lot of different partners. We used to do this [Clean Sweep] once a month or every two weeks. We're now doing it once a week."

Reality TV

Video footage of each Clean Sweep is broadcast on cable television, and Mestre says the resulting reality TV program has become one of the most popular programs in the Buffalo area.

Not only does it serve as a crime deterrent, Mestre says it also combats hopelessness in the city's most challenged neighborhoods by showing that the government has not forsaken its citizens. Instead, it is working to improve their lives.

Thor Olavsrud, a senior writer for CIO.com, covers big data.

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Ron Guerrier, CIO at Toyota Financial Services, has worked with other execs to turn the company's Innovation Lab into a game-changing asset and idea generator.

Failure *is* an Option

At Toyota Financial, allowing for missteps is key to the C-suite's innovation strategy

BY TIM SCANNELL

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When George Borst made the jump in 1997 from general manager of Toyota's Lexus division to head of the company's finance group, he was faced with a big decision.

The finance group's four core systems were in woe-ful shape, needing upgrades to improve performance and keep up with the rapid growth of finance operations. Borst came to the job long on strategy but admittedly a bit short on the intricacies of IT and finance, having come from sales, marketing and product-planning groups.

"I wish I'd paid a lot more attention in college to my economics and finance courses," he jokes. "But I was sent over there for a reason: to help increase sales and get closer to the dealers."

Borst decided to upgrade all four systems at the same time, including the core receivables system, thinking that a staggered plan would take longer and trigger an endless cycle of updates and redundant fixes.

As it turned out, that decision was a mistake.

"George's error was in signing on to the upgrade of multiple legacy systems concurrently without increas-

ing the manpower and business prowess to be successful," says Ron Guerrier, CIO at Toyota Financial Services (TFS). The core receivables system was hardest hit, Guerrier says, noting that the effort had to be restarted three times.

The IT department's reputation also took a hit. "Even though it was my fault," Borst says, "people were blaming IT for not having the capability to do it."

His mistake was trying to solve a problem without first gathering all the details and considering every variable, all while essentially flying solo. It's a mistake that neither he nor the company would repeat today. Not because Borst has a deeper understanding of all the complexities of IT, but because he later pulled together a trusted team of executives willing to share responsibility and accountability, in good times and bad.

The team includes the CEO, CIO, the vice presidents of sales and product marketing, and even the finance

group's VP and general counsel—many of whom came up through the ranks together over the past decade or more, cementing their collaborative relationships. It is a C-suite dream team, although its members might eschew that phrase because egos and lofty titles get in the way of collaboration and trust. The number one rule for this group: Leave that baggage at the door.

The TFS team's recipe for innovation and collaboration includes a list of basic ingredients: trust, courage, confidence, a sprinkling of diversity and a healthy dollop of mutual ownership of both successes and failures. Like many recipes, however, there is some wiggle room. "I'm huge on unity, but that doesn't mean everybody agrees," notes Mike Groff, who was until recently the senior VP of sales, marketing and product development at TFS. He was tapped to replace Borst as the organization's president and CEO when Borst retired on Sept. 30.

"You have to be transparent and you have to have courage," Groff says. "You've got to be willing to say things are going well when they are and when they are not, and then be able to adjust course."

The team's cohesiveness grew even stronger when TFS was spun off as a separate Toyota subsidiary in 2001 and Borst was appointed its first president and CEO. Under his leadership—with close support from the C-suite team—TFS has grown from \$74.4 billion in total assets in fiscal 2009 to more than \$95 billion in fiscal 2013. The company has more than 4 million customers and employs more than 3,200 workers.

TFS works with a nationwide network of dealers to manage all the financial aspects of purchasing or leasing a Toyota vehicle, and goes head-to-head against some formidable competitors in the finance industry, including Capital One, Chase, Bank of America and Wells Fargo.

Building a Bridge

CIO Ron Guerrier played an instrumental role in building and maintaining a collaborative bridge between the sometimes-insular business segments

Cast of Characters

The C-suite team at Toyota Financial Services:



Katherine Adkins: VP & General Counsel, also acts as the company's innovation champion



George Borst: Retired as President & CEO on Sept. 30, continues as an executive adviser to the company through the end of next year



Pete Carey: VP of Sales, works closely with IT on customer-service technology



Mike Groff: Incoming President & CEO, promoted from SVP of Sales, Marketing and Product Development



Ron Guerrier: VP & CIO, started his career with Toyota 17 years ago in collections and moved up the ranks to his current position



Karen Ideno: VP of Product & Marketing, maintains close connections with dealers to keep them apprised of new products and pricing as well as how products are positioned and sold

and IT, as well as in establishing a high level of trust among the company's top executives, Borst says. Street smart and technically savvy, Guerrier brought a no-frills vibe to the group and the organization by eliminating unnecessary barriers and chipping away at mid-management fiefdoms that stood in the way of productivity and innovation.

Guerrier is also one of the driving forces behind the company's Innovation Lab, or iLab, which was created a two years ago and is now the center of technology creativity at TFS and a nexus between IT and the organization's various business sectors. The iLab's success in bridging the gulf and enhancing the relationship between IT and business at TFS was one of the reasons it was selected last year as a CIO 100 award winner.

"I know everything I do in terms of technology systems is a part of this longer value chain, and it's to meet the needs of that end customer," says Guerrier, whose 17-year tenure at Toyota began soon after his graduation from the University of Illinois.

He grew up in some of the tougher areas of Chicago, where violence was an everyday occurrence, and his life could have taken a very different trajectory. After college, however, he set his sights on the business world and immediately started interviewing at companies like Philip Morris and Toyota. Guerrier applied to the automaker's customer service department, but ended up in collections, a stint he refers to as "eye-opening." Toyota seemed a good fit since he was looking to join a socially minded company and he was a car enthusiast. Perfect.

Today, Guerrier spends a lot of time working with youth groups to educate inner-city young people about the world beyond gangs, and working with other departments at TFS to improve IT's reputation. "I need to build up our street cred," he says. "I need to show that IT is adding value along the way."

Dealing With Adversity

Nearly every company can look back at its history and point to times of adversity, when executives and employees

VIEWPOINT



Anthony Christie

CHIEF MARKETING OFFICER
LEVEL 3 COMMUNICATIONS

Anthony Christie is chief marketing officer for Level 3 Communications, responsible for worldwide marketing, product management and customer experience. He oversees go-to-market strategy, product management, strategic pricing, corporate marketing, and coordination of the regional marketing organizations.

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What is Level 3's new Voice Complete solution and for whom is it intended?

We're taking our dedicated long-distance and local services, our core SIP [Session Initiation Protocol] offering, the trunking services associated with that, and then our ISDN PRI base, and we are collapsing and integrating those onto one platform, called Level 3[®] Voice Complete. It's geared toward very large multinational enterprises, but also to the midmarket. So, we are looking at companies with 4,000 to 30,000 employees generally, but certainly the solution is great for companies larger than 30,000 employees. And Voice Complete targets virtually all vertical markets.

What specific challenges and problems does this solution target?

Most enterprise network organizations face flat budgets and are looking to actually reduce costs when it comes to core infrastructure. Voice Complete helps them reduce operational complexity by moving toward unified communications and doing away with a patchwork of voice services often provided by multiple, disparate vendors.

What is the central value proposition of Voice Complete?

It is a better experience for enterprise customers. For users, the mobility features and the services enabling unified communications and collaboration enhance productivity. Those who manage operations can create a less complex environment than what they usually have in place today. Plus, it will lower the overall cost of moving from a legacy infrastructure to an IP environment. We offer this without forcing a forklift upgrade out of their existing environment. Finally, Level 3 provides expert consultation to build the SIP business case and align

the transition plan to the client's business processes.

How does Voice Complete support ongoing mobility efforts?

In most enterprises today, customers want their telephone number pools to be geographically independent and supported. So, they don't want to have to keep the inventory of all the 720s here in Colorado and the 973s in New Jersey, and so on. Also, emergency 911 options are critical and need to move to where a caller is. The mobility aspect of Voice Complete is that you've got your nomadic 911 and then you've got geographically independent telephone numbers that can be supported for a mobile workforce. The platform also enables virtual presence.

What is it that is truly unique about Level 3's approach here?

First, Voice Complete is designed to provide a very consistent and predictable experience, with built-in business continuity and disaster recovery at no additional cost. Second, if you consider how many enterprises operate in a hybrid CPE environment today, you'll see that they will gradually migrate to a 100 percent SIP voice infrastructure, not do it all at once. Through Voice Complete, we can provide true native TDM handoff options that offer SIP capabilities directly to a customer's legacy TDM PBX environment without the need for additional gateway equipment, routers, cards, or CPE. That's a big cost-saving benefit and makes their operating environment much less complex. Finally, Level 3 Voice Complete really is the first step in the path to realize Level 3's vision of delivering real-time communication applications that are enabled across our entire network globally. ■



Many members of the C-suite team at Toyota Financial Services—(left to right) **George Borst, Karen Ideno, Katherine Adkins, Ron Guerrier, Pete Carey and Mike Groff**—came up through the ranks together over the past decade or more, cementing their collaborative relationships. Their philosophy: To foster trust and collaboration, leave the egos and lofty titles at the door.

either rallied and survived or were crushed by the challenges. Toyota is no exception, although in its case the difficulties had more potential to devastate than most.

Four years ago, the automaker was forced to recall 14 million vehicles worldwide due to problems with the accelerators, and last year it recalled roughly half that many automobiles due to a risk of fire. While safety-related recalls are common in the auto industry, these incidents dealt a hard blow to Toyota's longtime reputation for quality and manufacturing excellence and triggered a surge of critical media.

In 2011, the company faced another frightening crisis in the form of the earthquake and tsunami that battered north-eastern Japan. A few months later, unrelenting monsoon rains brought destructive flooding to Thailand. Both events severely disrupted Toyota's supply of parts and affected the worldwide production capabilities of all Japanese automakers. The earthquake alone caused Toyota's profits to plunge more than 18 percent as production lines went idle and orders were left unfilled.

All this occurred as the Great Recession swept in, an implacable force that battered the economy and the business models of companies like Toyota that are dependent on new sales and the disposable income of consumers. Despite all this, Toyota bounced back and earlier this year recaptured the title of the world's largest automaker with global sales of about 9.75 million vehicles last year.

It would be easy to attribute Toyota's resilience to the worn cliché that Japanese companies operate according to a less individualistic philosophy than most U.S. concerns. This is true to some extent, of course, but it's an oversimplification.

"We live in a world of *kaizen*," says Borst, dropping the Japanese term for continuous improvement and change for the better, though in this case he also means pulling together and overcoming seemingly insurmountable obstacles.

"Toyota is a very collaborative environment," adds Groff. "We had some failures along the way, and that just caused us to take a step back" and reassess, he says, pointing to a few missteps



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affecting both the business and IT.

One Innovation Lab project that seemed to have potential, but was ultimately dropped, was a secure printing app for mobile devices. The printing app went against the grain of TFS' green initiatives and was not approved to move forward, says a company source.

But when executives emerge from adversity and take responsibility for both failures and successes, the bonds between them grow even stronger.

Sometimes admitting failure can be not just tough but also expensive, as in the case of the early and wrong decision to upgrade all the group's core systems at once. "I think it was one of the most disappointing things during [Borst's] tenure here, because we spent so darn much money and didn't have much to show for it," Groff says.

The company has since improved its decision-making process by adding a division information officer who oversees business-IT partnerships on specific technology projects and manages requirements gathering, says Guerrier. In October 2012, for example, the IT department got the green light to take a more surgical and collaborative approach when the decision was made to again upgrade the core receivables system, Guerrier says.

Another project, which has been rolled out to TFS dealers as a major new product, is the e-Contracting system, which streamlines the entire legal and financial process associated with customer contracts, including policy checks and document management.

Rolling Out Mobile Apps

Meanwhile, the Innovation Lab acts as an incubator and helps vet ideas for smaller but still-important IT projects. For example, the lab was the genesis of successful iOS and Android apps that

were pitched and created by internal mobile app development groups to build on the company's expanded use of smartphones and tablets in its interactions with dealerships.

Two of these apps were showcased in August at the company's national sales conference:

- an enterprise social networking app (in development) that leverages SharePoint 2013 to give sales associates immediate access to multiple feeds of relevant information and sends them push notifications of important leadership or sales meetings

Chasing the Dream

A big payoff awaits those who can build a collaborative C-suite team. Here's how to do it.

Duplicating the success that Toyota Financial Services has had in building and nurturing its C-suite dream team is quite simple. Gather executives who have spent a long time working together—maybe a decade or so—and have established trusted relationships. Have a CEO and team members willing to ignore titles and give everyone an equal voice. Get the blessing of a company with deep pockets and the willingness to ride out some inevitable bumps along the innovation road. Simple!

While that may not be a plan most companies can follow, TFS executives offer some advice that any CIO can use to build a collaborative C-suite:

- Develop partnerships with other executives and keep a business-first mind-set.
- Ensure that all executives view IT as a true enabler of business success, not as a necessary evil.
- Find the sweet spot in technology conversations—make sure executives can comprehend the topic, but don't oversimplify. Challenge them to raise their tech IQ.
- Don't forget to think long-term. CIOs who are short-term thinkers—or worse, obsessed with getting recognition for what they did today—will lose the trust and confidence of their C-suite peers.
- Build a candid, trusting relationship with the CEO on matters of IT spending. If a project is going to go over budget, don't wait to tell the CEO and other stakeholders.

This level of executive teamwork won't happen at companies where protecting turf and divisional boundaries are part of a hierarchical management culture, says Peter High, a management consultant and president of Metis Strategy. A collaborative culture starts at the top, with a CEO who has an extraordinary degree of self-confidence.

"If you have a CEO that wants to think of the org structure more as a military hierarchy, as has been tradition, then it's not going to filter down," High says.

"I'm hearing more and more CEOs say they want this type of culture, where leadership team members transcend their respective functional needs and expertise and embrace mutual responsibility for the digital opportunities and challenges," says Rick Pastore, vice president of strategy at the CIO Executive Council, a business unit of CIO's parent company. Collaboration and mutual ownership of IT-enabled innovation represent a culmination of the Future-State CIO Journey, the council's progression model for IT-business relationships. "It's the opposite end of the spectrum from the business handing off solutions for IT to implement as a service provider," Pastore says.

The payoff is big. According to PricewaterhouseCoopers' fifth annual Digital IQ study, companies with strong relationships between the CIO and other C-suite executives are four times as likely as less-collaborative teams to achieve business results such as revenue growth and high profit margins

—T.S.

- a reporting app (being deployed now) that delivers performance indicators and measures—such as vehicle sales and market share—that help sales staff take a more interactive and controlling role in the consultative sales process with dealers.

The iLab was created during the tenure of Guerrier's predecessor as CIO, Dan Priest. The idea was to establish a formal hub where both business and IT people could come together to discuss new concepts and hopefully provide the spark for projects that would benefit the company.

EXECUTIVE **VIEWPOINT****Shoeb Javed**

CTO, WORKSOFT INC.

Javed is responsible for technology strategy, software development and customer support at Worksoft, an SAP® partner and leading provider of business process validation software for complex mission-critical

applications. As CTO, he works with technology leaders at some of the largest global Fortune 1000 companies to speed up project timelines, improve quality and gain operational efficiencies.

Innovate Faster

Automation cuts timelines, boosts quality and lowers cost

Innovation is key to a company's future, but reliability is key to day-to-day operations—and reputation. So how does an organization balance the technology risk that comes with the fast pace of change and the need for stable business processes? Shoeb Javed, CTO of Worksoft, recently discussed how automation software can help companies achieve that balance.

The landscape of mission-critical enterprise applications is more complex than ever. How are companies managing change in this environment?

It's surprising, but the change management process has remained largely unchanged for a long time. Most companies manage change manually. Even if they have tools for organizing the change process, the actual activities are largely manual. This is very time-consuming. It's not very efficient and unnecessarily delays projects. It doesn't have to be this way.

What can companies do to accelerate the pace of innovation and deploy new technologies faster?

Innovation means changes to your complex enterprise application landscape. That introduces a great deal of technology risk because your business could be disrupted if things don't work as planned. If you could accelerate the process of ensuring that nothing will break when you introduce change, you could go faster. Companies should look at innovating the way that they manage change, just as they're looking at

innovation in specific business systems themselves.

SAP HANA®, mobility and cloud projects offer great dividends, but need to be deployed quickly and correctly. How can IT leaders ensure project success—without unintended consequences?

Companies often skimp on quality assurance. They don't have enough time, money or resources, and often projects are already delayed when they get to testing. The result can be catastrophic. If there's a serious glitch, a company might not be able to take orders or ship product. It might get into a situation with so many problems post-production that it's like death by a thousand cuts. If you're deploying new technology with a large number of small problems, you face productivity losses and frustration. The good news is that if you can identify your critical business processes and then automate the validation of those processes, you can avoid all of this risk.

How does business process validation increase business agility and shorten project timelines?

Functionally, you have to make sure that business processes work as intended. Then you have to make sure that performance is up to par. If you have 5,000 users doing something at the same time, you need to make sure that your systems are able to handle that. If you're able to effectively automate the validation of your business processes—including functionality, performance and role-

based security—then you can take huge amounts of manual effort and time out of your projects. It also means you can do more projects with the same staff. And that's agility.

It seems too good to be true: shorter timelines, higher quality, lower costs, less risk, faster innovation. Has this been proven?

At Worksoft, we've seen some of the largest, most sophisticated global Fortune 500 companies cut project timelines significantly with automation. One of our clients is saving more than \$2 million annually in their first year through automation. When 40 cents of every project dollar go to quality assurance, the opportunity is substantial. What used to take 50 people six weeks to do was cut to two people over a couple of days. And their risk of a business process failure due to technology has dropped to nearly zero. The real-world savings that companies get from automation are quite dramatic. ■

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"I need to build up our *street cred*. I need to show that IT is adding value along the way."

-RON GUERRIER, CIO, TOYOTA FINANCIAL SERVICES

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"Dan did a phenomenal job of resetting our agenda," Guerrier says, noting that when Priest arrived in June 2010, IT had a lot of *muda*—the Japanese word for waste and uselessness—that Priest cleaned up. "He gave us the breathing room to do such things as the Innovation Lab."

Guerrier has worked with other TFS execs to take the lab to the next level, turning it into a game-changing asset that functions as an idea generator to inspire creativity among employees at all levels of the organization and determine which ideas have the most promise. Participants in the annual Innovation Fair showcase projects that have already been implemented in their departments. And throughout the year, creativity and innovation workshops bring people from different departments together to analyze an issue and brainstorm potential solutions.

TFS also stages internal innovation competitions, where all employees can pitch new ideas and possible projects—some more far-fetched than feasible. The competitions are organized by VP and General Counsel Katherine Adkins, a member of the C-suite team who has an official sideline as the company's champion of innovation.

While the lab is basically a space outfitted with computers, large touch-screen displays for presentations and videoconferencing, collaborative workspaces and other tools, it is part of the glue that binds the TFS team together and gives its innovation strategy staying power. Oddly enough, the lab has also helped people in both the business and IT acknowledge the possibility of failure—and figure out when to pull the plug on a pilot.

Adkins says she works closely with the CIO on her innovation efforts and that, while IT owns the iLab, having someone outside IT serve as an innovation coordinator improves how others perceive the effort.

"If you have a CIO who is also the chief innovation officer, then that connotes to your people that only technology equals innovation," she says, but in fact innovation can certainly happen outside of IT.

CIO Guerrier says he's comfortable with Adkins' role as chief innovation instigator. "It's not about her better position or my worse position," he says. "If she does this right, and I do my part right, we're all better."

Guerrier's comfort with Adkins is based largely on the fact they have a long history of working together at TFS. They first met when Guerrier came to the Torrance, California, headquarters in July 2005 as a national manager overseeing IT opera-

tions and service. Adkins was also a national manager and a retained attorney at the time, and she worked with Guerrier on a number of projects—as he puts it, "sitting in the trenches, going through long negotiations"—where they developed a relationship of trust and respect.

The Next Chapter

The C-suite dynamic may see some subtle changes as Groff, the new CEO, looks to make his own mark on the organization. Whereas Borst projected a professorial and almost folksy image during his tenure as CEO, Groff seems to be a more pragmatic, by-the-numbers type of leader.

Groff is committed to C-suite collaboration and to sparking innovation, but he says the efforts need to mature and become totally aligned with business objectives. "We're not quite there yet," he says.

While it's still early in his tenure, Groff says he'd like projects and initiatives to progress more quickly from concept to execution—without getting bogged down in overanalysis. "The world is moving awfully quick, and I think you've got to keep changing with it," he says.

In the last few years, TFS has let innovative experiments run "for a few months, six months, maybe a year, and then we'll decide whether we're really going to plunge into it in a big way," Groff says. But if a project isn't going anywhere, the new CEO may be a bit more aggressive in pulling the plug, given his background in finance (as opposed to the previous CEO's experience in sales, marketing and strategic planning).

"In the past, we probably had a tendency to stay with it, fuel it with more money, bring in a different team, and then two years later say, 'This isn't going anywhere.' Instead, I'd like to see us be willing to say, 'This one just isn't going to fly, now let's move on.'"

If there is a sharper focus on success metrics and less tolerance for marginally successful projects, that could also put a bit more pressure on Guerrier as CIO. Groff says he'll be expecting the CIO to have the courage to tell the new CEO whether the company is on the right path or not.

"I'm really going to be looking for Ron to do that. Be honest, be transparent, and be thoroughly straightforward," Groff says. "We've got to be honest with each other." **CIO**

Tim Scannell is director of strategic content at the CIO Executive Council (www.council.cio.com).



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SOUNDING BOARD

Rules of the IT Road

Good governance ensures transparency, efficiency and maximum business impact for IT initiatives

KIM BARRIER, BIO-RAD LABORATORIES

LINKING PROJECTS TO STRATEGY

We have a business and IT team that reviews our IT project portfolio. We have only so many dollars, hours and people, and we're now doing a major global SAP implementation, so we have to prioritize our resource investments. This requires looking at projects with more discipline and structure to ensure there is a business case. The team meets regularly and uses an intake process that details the costs, time line, resource impact and business value. Typically, projects over \$250,000 go through this process, but we will examine less costly projects if they affect the strategic direction of the company.

We want to grow from a \$2 billion company to a \$5 billion company by 2019. We have strategies to do that—organic growth, acquisitions, operational efficiency, R&D collaboration and customer intimacy—and we evaluate IT projects that can enable ▶▶▶



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ILLUSTRATION BY THINKSTOCK

The Increasing Importance of an Exceptional Customer Experience

In a world where customers can order almost anything over the Internet, customer service has always been crucial. But technology has expanded the number of ways in which customers can contact organizations, with phone and mail being augmented by email, mobile apps, and websites. No matter which of those channels customers use, they expect consistent pricing, service, and experience.

Providing a satisfying customer experience has never been more important, both in terms of serving customers and providing differentiation. The problem is that there is still a chasm between desire and delivery. Based on the results of a new eLoyalty, a TeleTech Company, and IDG Research Services survey of IT leaders, organizations still face numerous challenges in providing their customers with an exceptional experience.

The Current State of Customer Experience

Organizations are still divided regarding the best strategy to create that differentiated customer experience. Fewer than half of organizations surveyed (44 percent) report having a unified approach across channels; another 44 percent report having multiple single-channel strategies that are tied loosely to an overall strategy. But the survey results support the former approach: Those using a unified method for improving customer experience are more likely to rate their organizations as doing "very well"—27 percent vs. 10 percent among those using multiple strategies.

The fact is, most organizations are stymied by the overall complexity of their task, in part because of the piecemeal way with which they've addressed customer experience in the past. With siloed processes, staff, and point solutions, organizations can't accommodate the current demands of customer experience.

Companies Want to Improve Customer Experience

Organizations understand that they need to evolve, so they have embarked on multifaceted efforts to improve their interactions. These efforts encompass both cultural and technological steps. They're cross-training employees so that the latter can handle multiple interaction scenarios. They're monitoring calls and email interactions, and soliciting customer feedback. On the technology front, they're

utilizing self-service processes as much as possible, so that customers who don't want or need to interact with a human don't have to.

Increasingly, too, companies report they are creating new roles and departments dedicated to improving the customer experience. These include:

- Departments or task forces focusing on customer experience
- Centers of excellence focused on serving customers holistically
- Customer service champions with cross-departmental responsibilities

How Companies Tackle the Problem

To address the challenge, many companies are deploying a cloud-based contact center incorporating a variety of technologies. These include integrated email, phone, chat, and social media capabilities, so that organizations can tie specific customers to specific interactions. They're also offering self-service Web portals for customers in order to get as many questions answered on a less-expensive, automated basis.

These cloud-based contact centers provide value because they allow organizations to deploy services strategically, but roll them out incrementally. This avoids the problem of having to manage a huge effort that may turn out to be time-consuming and complex.

Only through integrated efforts can organizations accurately monitor customer interactions, identifying areas for improvement and quantifying areas of success. That's why, for organizations that are serious about differentiating themselves through the customer experience they provide, an integrated multichannel customer strategy can mean greater insight and better results. ■

For more information, visit :
www.cio.com/whitepapers/eLoyalty



►►► **Governance** Continued from Page 50

these. The SAP project is a big driver of operational efficiency, for example. When a project goes through the intake process, we create a business case to determine how it fits with where the company wants to go. Projects are not reviewed in isolation; we look at them in terms of a three-year road map, our dependencies and our strategy.

JONATHAN KASS, VETERINARY PET INSURANCE
AN INSTRUMENT FOR ENGAGEMENT

As a mid-market company, our governance is designed to engage the entire executive team and ensure that discretionary funding is as directly aligned as possible with our business priorities and strategic initiatives. The intent is to provide transparency and enable a collaborative process so business executives feel they own IT spending and resources. The executive team acts as the IT strategic planning council, and executives are involved in chartering projects. A member of the executive team also sponsors each IT initiative, increasing confidence that projects will move along and meet business goals. The governance process guides not only how we launch projects but also how we keep an eye on them.

We recently wanted to streamline our enrollment process to improve the customer experience. The governance we have in place allowed us to very quickly change IT priorities and align resources with our business partners. IT works closely with the business to test concepts and evaluate consumer behavior on our website. When it came time to change the enrollment process—which involved changing not just a field on the website but also how our insurance application process itself worked—we exceeded the very aggressive business schedule.

HOUSTON ROSS, ING LIFE INSURANCE (JAPAN)
TRANSPARENCY AND ALIGNMENT

Two years ago, the IT organization was split between applications and infrastructure, and the two never seamlessly meshed. The governance model we now have—which uses elements of the IT Infrastructure Library, Control Objectives for Information and Related Technology, IT Service Management and Six Sigma frameworks—gives us a mechanism to connect the two. As a result, we have a better idea of how changes to our infrastructure affect what we can do from an applications perspective, for better or worse, and vice versa.

This kind of transparency helps us build applications and implement infrastructure to deliver business results, and it gives us a new level of agility to enable the business.

We have adopted cloud computing, which would have been difficult without transparency. We have also increased our speed of delivery—deployment cycles that once took 9-12 months now take six—because we no longer have two separate assessments for applications and infrastructure. We deploy IT resources based on business capability rather than applications; IT managers are aligned with business areas such as distribution management rather than applications. None of our strategic projects have failed in the past year. From a governance perspective, we're doing the basics right in terms of requirements management, design and architecture planning.

TAKE Note

Deloitte CEO Gets Candid

REGISTER Today's CIOs must drive their teams to deliver maximum value while navigating a world of consumer and social technologies. Now, at a Nov. 20 event in Dallas, IT leaders can hear about a CEO's expectations, including those that are often left unspoken. In a candid, firsthand conversation with David Williams, CEO of Deloitte Financial Advisory Services, CIOs and their team members will get a rare opportunity to ask tough questions and gain practical advice for resetting or aligning with their own CEO's agenda. council.cio.com/dallas

Talent in Uncommon Places

DOWNLOAD Finding talent with the right mix of technology and business skills, coupled with the personality to fit your culture, can be downright daunting. This fall, the CIO Executive Council presented a webcast on talent management focused on how to find IT talent in uncommon places. George Rosato, VP of IT at CONSOL Energy, and Stephen Urban, CIO at Dow Jones, share how they buck the trend by going outside the typical recruiting process to find people who have the right stuff to be successful in IT. Download the recording to hear how to get the talent you need in the door. council.cio.com/uncommon

Leadership Master Class

ATTEND What if you could tap into the wisdom of the IT profession's most respected leaders on topics such as business skills and career advancement? Well, you will have the chance to do just that at the always-popular Leadership Master Class session at the Premier 100 IT Leadership Conference, which will be held March 2-4, 2014. This engaging session is specially designed for mid-career to senior-level IT leaders who aspire to the CIO position, as well as current CIOs interested in further career development. Led by CIO Executive Council mentors and Ones to Watch Award judges, this master class offers small group discussions with highly accomplished CIOs. council.cio.com/masterclass



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Wearing Many Hats

Waste Management's CIO keeps the focus on business

BY PUNEET BHASIN

My role is somewhat atypical for a CIO. In addition to managing IT, I also run our WM Logistics subsidiary and manage our Strategic Accounts business unit, and I'm responsible for customer service across our 20 call centers.

When I joined Waste Management three years ago, two things appealed to me: It was a large, Fortune 200 company with tremendous potential to use technology to drive efficiency and increase revenue through an enhanced product portfolio, and it's a green company that considers itself a steward of our environment.

Shortly after I joined, I realized that, fundamentally, this wasn't a garbage company but a logistics company. Like FedEx or UPS, we are in the business of picking up and dropping off packages—it just so happens that our package is garbage and recyclables. From my previous work at American Airlines and Ryder, I realized we could use logistics capabilities in many parts of our business. So one of the first things we did was set up a decision sciences group, which has three charters: routing, scheduling and operations research; industrial engineering; and sophisticated data analytics.

One of our strategic imperatives is to get to know our customers and serve them better than anyone else. While we provided good customer service, I felt we could significantly improve our service through improved interdepartmental communication and more efficient processes enabled by technology. We have invested significantly in process improvements, self-service tools and e-commerce, and have seen some very positive results. We are also consolidating our call centers into a couple of mega-facilities.

In our Strategic Accounts division, we provide customized solutions to about 1,000 of our largest customers,

including helping them reach sustainability goals like not putting anything into a landfill, an achievement referred to as "zero waste."

I see many CIOs constantly fighting fires, dealing with a project that's not going well or facing scalability, performance or security issues. We are fortunate in not having to deal with many of these issues, and the credit goes to my team for doing an excellent job. That was not the case when

I first arrived at Waste Management. The IT department lacked credibility, we had an aging IT environment, and we had legacy skill sets. The first year and a half, I spent my time fixing those issues and rebuilding my team. We came up with a new strategy involving new systems that included mobility, on-board computers, logistics and ERP.

I have been a CIO for many years, and technology is certainly in my DNA. When I come across a business problem or revenue opportunity, in addition to looking at it from strategic, operational and management points of

view, I also envision how technology can play a role. I am the business user and the IT guy at the same time. Still, my natural inclination is not to approach issues from a technology perspective; instead, I try to achieve our business objectives and strategies. I prefer to drive results at the P&L level, and that's what any technology leader needs to do to take on responsibilities outside of technology.



Puneet Bhasin is CIO and senior VP of technology, logistics, customer service and strategic accounts at Waste Management.



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CEO: 'Bring On the Data'

David Williams, CEO of Deloitte Financial Advisory Services, is letting IT change the way he does business **BY MARTHA HELLER**

How is technology changing Deloitte Financial Advisory Services as a business?

We're using social media to move from an organization where knowledge is dispersed in people's heads to one where it's enterprise knowledge. We're now thoroughly reliant on data: It gives us insights about our client base, it's part of how we deliver services, and it drives a fair number of the decisions I make every day.

What advice can you give CIOs about educating their CEOs on the value of technology?

I was not always as appreciative of technology as I am now. Our CIO took us on a journey to show us that a bit of data can lead to better outcomes. That's when the CEO becomes addicted. If you can get a foot in the door and help a CEO understand that new technology can help with a specific business

not use all of it? Maybe I'm overly reliant on data, but the fact that I can open a database and see every hour what we've charged every client this year is very powerful to me.

Do you communicate with your organization differently through technology?

We use Yammer to maintain a level of connection with the staff, but we use different communication tools to deliver critical information. I try to post something relevant once a week to the entire firm. Social media has really enlightened me about what people want to hear.

What is an example of that?

I used to think it was extremely important to communicate financial information about the business. But I learned through Yammer that people have that information. From me, they want an interpretation of that information and where I'm taking the business. That's much more important than whether we're at plan.

What technology is personally most exciting to you?

I have always found it a little difficult to make connections with new people. So the idea that I can create a LinkedIn profile, which alone can drive new connections, is very exciting. Technology allows me to network while I sleep.

Martha Heller is president of the executive recruiting firm Heller Search Associates and author of *The CIO Paradox*. Follow her on Twitter: @marthaheller.



The trick when dealing with a CEO: baby steps and good results.

Advances in technology require innovation and execution. How do you create a culture that allows for both?

If our people see a new way to serve a client, we give them money to innovate. Maybe they'll dig a dry hole, or maybe they'll deliver significant value.

But when we keep throwing a little more money at an idea, we sometimes look back and realize we should have invested in significant execution processes up front. Our strategy is to encourage people to innovate and know when that innovation is ready so we can drive it throughout the enterprise.

challenge, then the next step is the next project, and then it starts to take hold. That's the trick when dealing with a CEO: baby steps and good results.

How has technology affected your leadership style?

Some people call me a "data wonk" these days, since I spend a great deal of time analyzing data. Warren Buffett has been quoted as saying he makes big acquisition decisions based on analysis of "the right data," certainly less than all the data that's available. Why? Given the proliferation of technology, I can have all the data I want at my fingertips—why

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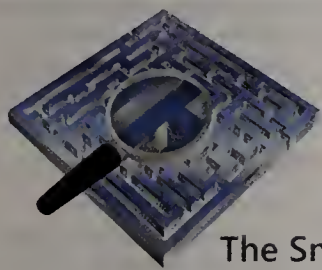
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The Unkindest Cut

Trees in the Amazon rainforest are so valuable that gangs cut them down illegally and sell them as lumber for big profits. To outwit the gangs, Brazilian technology company Cargo Tracck worked with digital security company Gemalto to pilot a project last year. "We wanted to capture the thieves red-handed," says Ramzi Abdine, a general manager at Gemalto. During the three-month pilot, night vision cameras were installed near 20 trees that had been implanted with Cargo Tracck devices, which are about the size of a deck of cards and include sensors and Gemalto wireless connectivity technology. Police and the environmental protection agency in Brazil received alerts about the trees' latitudes and longitudes as they moved within 20 miles of cell networks. Once the devices stopped registering movement, authorities descended to make arrests at an illegal saw mill. Abdine hopes the technology will achieve wide-scale adoption and help save the rainforests from illegal logging.

—Lauren Brousell

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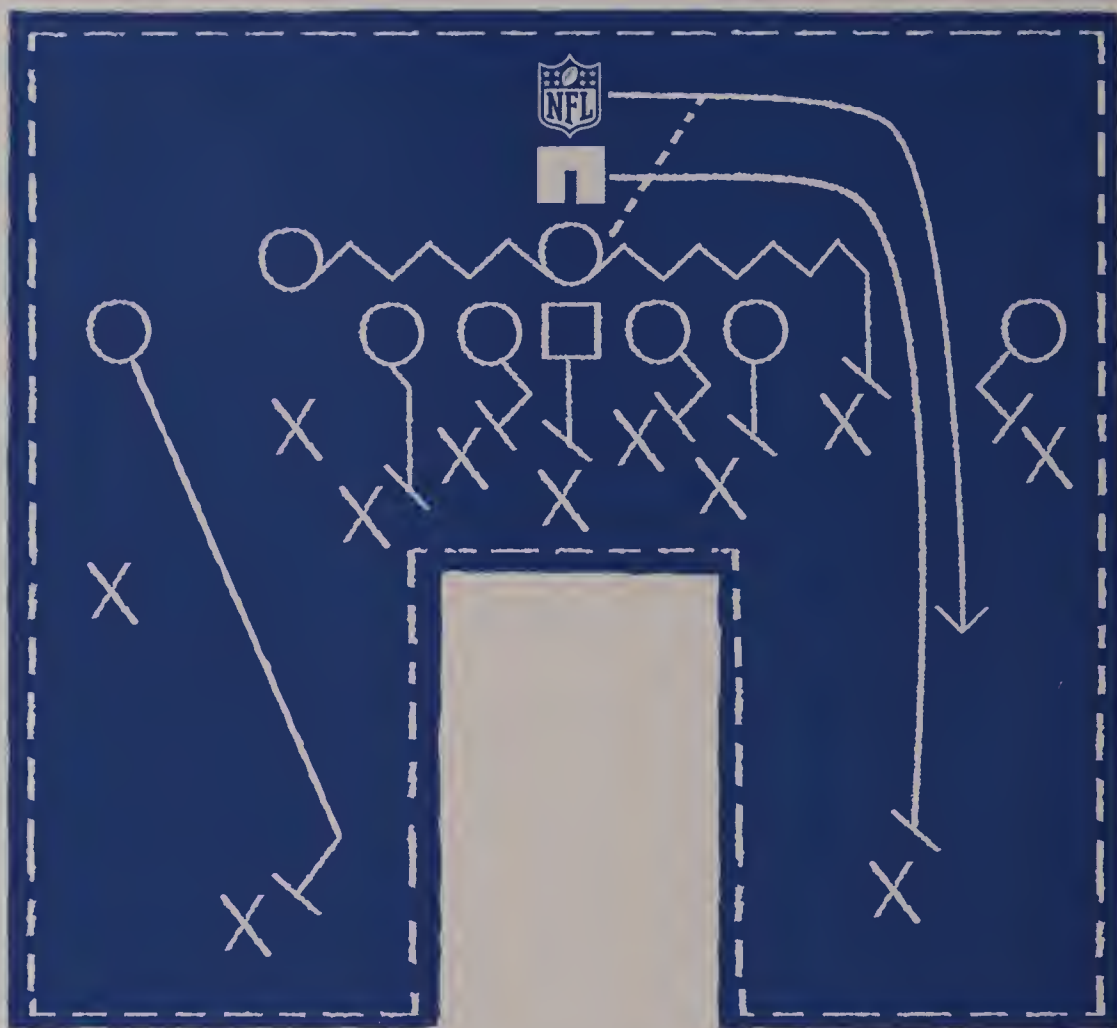
¹ Based on IBM comparison of configuration and setup by customer onsite versus delivered by IBM using Intelligent Cluster service, which is an optional feature available at additional cost.

² 3x cores based on industry standard 42U rack comparing 42 1U x3550 M4 rack servers with 2 Intel® Xeon® E5-2600 processors 8 cores each = 672 cores vs. 84 NeXtScale System nx360 m4 nodes with 2 Intel Xeon E5-2600 v2 processors 12 cores each for 2016 total cores.

³ SPECint_rate_base2006 - 669 on IBM iDataPlex dx360 M4 (Intel Xeon E5-2690) vs. 918 on IBM NeXtScale nx360 M4 (Intel Xeon E5-2697 v2). www.spec.org. Results current as of 9/20/13.

⁴ SPECpower_ssj2008 - 5392 on IBM iDataPlex dx360 M4 vs. 7347 on IBM NeXtScale nx360 M4. www.spec.org. Results current as of 9/20/13.

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